B A D L I M (tm)

Bad sector eliminator

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INTRODUCTION

Welcome to a new world. The world of computer confidence. Could you use a computer you cannot trust? Well, this is the state of affairs that can and will happen if you get a bad sector in your disk. But now you will enjoy a new level of friendship with your computer thanks to a single piece of software.

BADLIM is a new software package that will increase the reliability of your CP/M disk system. It performs a thorough check of all sectors of a diskette linking those found defective into a shadow file which you cannot see in the directory.

The operating system considers those bad sectors as allocated and prevents data form being deposited there. You can use the rest of the disk with confidence. You will never again worry about losing valuable data stored into a damaged sector.

At the end of the processing Badlim shows on your terminal the number of faulty CP/M blocks set apart. More importantly, it shows which files on the disk are located in the bad sector territory. With this information you, the user can simply replace those files and continue with the same disk up to 10 times longer than before.

Badlim is truly universal, self-adjusting automatically to any size of disk, any sector and track configuration in single density, double density or hard disk. For Winchester, it is a must as the media cannot be replaced. You can run it on any CP/M 2.xx and in most standard CP/M 1.4 automatically. No configuration programs, no installation time is spent. In fact, to learn how to configure any of these programs for a typical system takes far more time than to learn how to use it.

If you are ordering this program please specify media format. However, you can use it in your CP/M 1.4 or later for any media you have, including hard disk. You only need one program.

The Badlim program disk and manual is $73.. It was created by:

> Blat R&D Corp.
> 8016 188th SW
> Edmonds, WA 98020
> Phone: (206)771-1408.

who are also its publishers.

BADLIM REQUIRES CP/M 1.4 OF 16K OR MORE OR CP/M 2.n OF 20K OR MORE.

HOW TO SET UP PRIOR TO USE

The first thing you should do when you are using a new program is make a copy of the diskette you received from your dealer or from Blat R&D and put the original diskette in a safe place.

If you have two or more drives in your system use PIP.COM to copy all the files of the BADLIM master disk (the one you purchased) to a new blank disk.

First, insert in the first tracks of the blank disk the operating system program according to the instructions of the manufacturer of your computer or the supplier of your CP/M. The program to do so is SYSGEN, DYNAGEN etc. Look in the manuals of these programs and follow the instructions.

Once you have a blank disk with the CP/M in the first tracks put this disk in drive A and a disk that has PIP.COM in drive B. Reset the computer or key control-C (control-C also referred to as ^C means press the key labeled CONTROL or CTRL, hold it, then press the key C, release key C and the key CTRL last.

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N O T E

In all the references we make in this manual, YOUR input to the computer is printed in lower case. The computer prompts are in upper case. But you can in fact type at your terminal either in upper or lower case with the same result.

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Use PIP.COM this way:

```
        A>b:pip
        *        (Remove out the disk from drive B
                 and insert the original Badlim diskette)
           a:=b:*.*[v]

        *<CR>   <CR> means that you press
                 the key labeled RETURN or ENTER

        A>
```

Now store the original diskette in a safe place. Use the new diskette for all the instructions which follow.

As soon as you have the file BADLIM.COM in a duplicate diskette and in a format your system can read you are ready. The configuration and installation processes are automatically done by BADLIM.

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You only have to answer one more question to be in business.

ENTER TIMES (1-9) TO CHECK FOR SOFT ERRORS (<CR>=1):

At this point you may answer with a RETURN or enter a number from 1 to 9. Any invalid answer will start the dialog again from the enter drive prompt. If you press RETURN you obtain the same effect as keying the number 1.

BADLIM will start again and repeat its test for the disk for the number of times you entered above. Every time BADLIM finds a bad sector it will add it to the shadow directory entry where all bad blocks are linked.

What all that means is that if the disk you are testing has some errors that appear at random, and if they are not caught the first time they will be discovered later if you give BADLIM a chance to repeat its test.

The important point is that once one record is marked as bad, it is NOT tested again. That record is treated as bad for as long as the BADLIM directory file BSBSBSBS.BSB exists. This is the way that disks with soft errors can be properly cared for.

INSERT DISKETTE TO TEST ON DRIVE X AND PRESS RETURN

In this manual X stands for the drive you have selected before. Please do as requested.

You may change disks at this time if necessary, but a disk should be left in drive A when this drive is not the one selected for the test to allow BADLIM to do a system reset.

Neither the disk inserted in the drive you selected for the test nor the disk left in drive A need to have the BADLIM.COM file in it, but it does not harm if it is there. If the drive you selec- ted is A you do not have to leave any other disk, except of course the one you are testing.

Anything you enter now except carriage return will take you back to:

ENTER DRIVE (OR RETURN TO REBOOT):

If you have entered a carriage return you will see this message:

...PLEASE WAIT

Your disk is being checked. Depending on format, density, inter- leaving and other factors this check can take several minutes. Be patient, but if you are testing a big Winchester drive, it would be better to leave the computer alone and find something else to do.

If your disk has some bad sectors you will see this message:

BAD SECTOR IN BLOCK: nnnn

Once BADLIM has tested this disk it records this bad area. The next time BADLIM is checking, the message is changed to:

FROM PRIOR CHECK BAD SECTOR IN BLOCK: nnnn

Which means that BADLIM skipped this block to save time. A block that has soft errors (the ones that appear and disappear and are the most troublesome) will not have a chance to ruin your work again.

If you answered with a number of 2 or more to the question of how many times to test, you will see this message on your terminal screen:

...PLEASE WAIT, BADLIM WILL TRY AGAIN n MORE TIMES

At the end you will see this message:

THERE ARE n BAD BLOCK(S)...

Now BADLIM is ordering file information in your disk directory to see which files are using damaged blocks.

If no file is in bad real estate you are a lucky person. You will see this:

NO FILES ARE USING DAMAGED BLOCKS

BADLIM FINISHED

ENTER DRIVE (OR RETURN TO REBOOT):

From now on all the tasks repeat. Go ahead and process another disk or if you like, enter a RETURN and use BADLIM again next week in the same disk. Once a week is a good maintenance schedule to follow in those diskettes you use most often.

The first time you process a disk under BADLIM, if the disk has bad sectors, it is quite possible that those bad sectors are affecting files. In this case you will see this message displayed:

LIST OF DAMAGED FILES:

filenam1.ext
filenam2.ext
filename.ext

The rest-is the same as in the case where there are not damaged files. If the files are long you may see the same file name more

than once. Every extent in the CP/M file will be listed as a sep-
arate entry.

If the files are standard system programs, or if you have a back
up available you should erase them, do a warm start (type ^C) to
initialize disk maps and then PIP the new replacements.

The warm start is important in this case because the CP/M CCP
function ERA does not end with a re-boot. To let the operating
system up-date its disk maps, you have to allow a system reset,
which is part of the warm start. Note for advanced programmers:
Application programs that use function 13 of the CP/M BDOS get
the same result.

Once you use BADLIM you will not have the bad sector problem
again. The operating system will know, thanks to BADLIM, that
there are sectors in the disk that are not to be used and where
these sectors are.

Anyway disks do have a finite life expectancy so after a long use
you may consider re-formatting the disk or simply discard it.
However you will find that BDOS ON X: BAD SECTOR will not be one
of your common experiences.

BADLIM version 1.2 can adjust itself to any CP/M, including now
CP/M 1.4. Use it freely in any system of single or double density
or hard disk.

You can not use BADLIM however in those rare systems where the
BIOS is located in ROM. This program requires that the BIOS
vector table at least is in RAM. If in doubt try it, no harm can
be done. You will receive an error message in this case.

Badlim cannot be used on MP/M.

In case you want to stop execution press any key. Follow screen
instructions.

BADLIM remembers previous tests so that an erratic disk is not
allowed to use a marginal sector, even if this sector does not
show bad sometimes.

In case that for some reason you want BADLIM to start all over
again without "remembering" previous tests you can do it this
way:

     A>forget d:

Where d: is the drive where you have the disk under test. Of
course, the file FORGET.COM should be in your log-in disk. In
case you need further help call [206] 771-1408.